Signature

Date: August 29, 2006

(Hb)

08/29/2006 14:39 FAX 603 226 7499 DAVIS & BUJOLD, PLLC → USPTO CENTRAL **2**001 PTO/SB/21 (12-97) Approved for use through 9/30/00. QMB 0851-0031 Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. **Application Number** 10/574,593 Filing Date with an effective filing date of October 14, 2004 TRANSMITTAL RECEIVED **CENTRAL FAX CENTER** First Named Inventor **FORM** Detlef BAASCH et al. AUG 2 9 2006 Ito be used for all correspondence efter initial filing) Group Art Unit Examiner Name Fax: (571) 273-8300 Total No. of Pages in this Submission: 12 Attorney Docket Number ZAHFRI P843US ENCLOSURES (check all that apply) ☐ Fee Transmittal Form □ Assignment papers □ After Allowance Communication (for an Application) to Group □ Fee attached ☐ brawing(s) Appeal Communication to Board ☐ Amendment/Response of Appeals and Interferences ☐ Licensing-related Papers □ After Final ☐ Appeal Communication to Group □ Petition Routing Slip (PTO/SB/69) (Appeal Notice, Brief, Reply Brief) ☐ Affidavits/declaration(6) and Accompanying Petition (DELETED - no longer useful) Proprietary Information Extension of Time Request (in Duplicate) ☐ To Convert a Provisional Petition □ Status Letter □ Express Abandonment Request D Power of Attorney, Revocation Additional Enclosure(s) Change of Correspondence Address (please identify below); ☐ Information Disclosure Statement □ Terminal Disclaimer Subm. of Intl Prelim. Exam. Report ☐ Certified Copy of Priority Int'l Prelim.Exam.Report Document(s) ☐ Small Entity Statement □ Response to Missing Part/s ☐ Request for Refund Incomplete Application ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53 REMARKS BEST AVAILABLE COPY SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT Firm or Individual Name Michael J. BUJOLD Reg. No. 32,018 DAVIS & BUJOLD, P.L.L.C/ CUSTOMER NO. 020210 Signature Date August 29, 2006 CERTIFICATE OF TRANSMISSION I hereby certify that this correspondence is being facsimile transmitted to the USPTO on Type or printed name Michael J. BUJOLD

**2**1002

RECEIVED
CENTRAL FAX CENTER

AUG 2 9 2006

8/29/06

PATENT APPLICATION

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Detlef BAASCH, Gerhard GUMPOLTSBERGER,

Christoph PELCHEN, Barbara SCHMOHL,

Ulrich MAIR and Thomas ROSEMEIER

Serial no.

:

Filed :

with an effective filing date of October 14, 2004 TRANSMISSION AND DRIVE TRAIN FOR A

VEHICLE

10/574.593

Group Art Unit Examiner

Examine Docket

ZAHFRI P843US

The Commissioner for Patents U.S. Patent & Trademark Office P. O. Box 1450
Alexandria, VA 22313-1450

# SUBMISSION OF ENGLISH TRANSLATION OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Dear Sir:

Enclosed please find an English translation of the International Preliminary Examination Report concerning the above-identified application. Please enter the same into the record of this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,

Michael J. Bujold, Reg. No. 3

Customer No. 020210 Davis & Bujold, P.L.L.C. 112 Pleasant Street

Concord, NH 03301-2931 Telephone 603-226-7490 Facsimile 603-226-7499

E-mail: patent@davisandbujold.com

# PATENT COOPERATION TREATY PCT/EP2004/011528

From the INTERNATIONAL BUREAU

PCT  NOTIFICATION OF TRANSMITTAL OF COPIES OF TRANSLATION OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (CHAPTER I OR CHAPTER II OF THE PATENT COOPERATION TREATY) (PCT Rules 44bis.3(c) and 72.2)  Date of mailing (day/month/year) 03 August 2006 (03.08.2006)	To:  ZF FRIEDRICHSHAFEN AG 88038 Friedrichshafen ALLEMAGNE  TS Eingang 1 7. Aug. 2006		
Applicant's or agent's file reference 8764 WO RSF-RIX	IMPORTANT NOTIFICATION		
International application No. PCT/EP2004/011528	International filing date (day/month/year) 14 October 2004 (14.10.2004)		
Applicant ZF FRIEDRICHS	SHAFEN AG et al		
The International Bureau transmits herewith a copy of the patentability (Chapter II).  2. Transmittal of the copy of the translation to the designated or experimental Bureau notifies the applicant that copies of that Offices requiring such translation:  None  The following designated or elected Offices, having waived the retranslation from the International Bureau only upon their request:  AE, AG, AL, AM, AP, AT, AU, AZ, BA, EB, BG, BR, BW, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, CTJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 200.  3. Reminder regarding translation into (one of) the official langual translation of the international prelimmist contain a translation of any annexes to the international prelimmist contain a translation of any annexes to the international prelimmist contain a translation of any annexes to the international prelimmist.	quirement for such a transmitted to the following designated or elected quirement for such a transmittal at this time, will receive copies of that BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EA, EC, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, DA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, ZA, ZM, ZW  ge(s) of the elected Office(s).  onal application must be furnished to an elected Office, that translation lineary report on patentability (Chapter II).		
The International Bureau of WIPO  34, chemin des Colombettes  1211 Geneva 20, Switzerland	Authorized officer Ellen Moyse		
Facsimile No. +41 22 338 82 70	Familia No. 141 22 229 97 70		

**2**004

RECEIVED CENTRAL FAX CENTER

#### PATENT COOPERATION TREATY

## PCT

AUG 2 9 2006

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

		ļ		
Applicant's or agent's file reference FOR FURTHER ACTION 8764 WO RSF-RIX		See item 4 below		
International application No. In PCT/EP2004/011528 14	ternational 4 October	al filing date (day/month/year) Priority date (day/month/year) . 22 October 2003 (22.10.2003)		
International Patent Classification (8th ed See relevant information in Form PCT			icated)	·
Applicant ZF FRIEDRICHSHAFEN AG				
		·	-	
<ol> <li>This international preliminary rep International Scarching Authority</li> </ol>	ort on pate	ntability (Chapter	I) is issued by the l	International Bureau on behalf of the
		!		
2. This REPORT consists of a total of	of 9 sheets	including this co	ver sheet	·
			•	arching Authority should be read as a reference
to the international preliminary re	port on pai	centability (Chapte	r I) instead.	arching Authority should be read as a reference
	-	<del></del>		
<ol><li>This report contains indications re</li></ol>	lating to th	e following items	:	
Box No. I	Basis of	i the <del>report</del>		
Box No. II	Priority			
Вох №. П	Non-esta	  blishment of opin	ion with regard to n	muelto inventive sten and industrial
<b>,</b> –	applicabl	ablishment of opinion with regard to novelty, inventive step and industrial sility		
Box No. IV	Lack of t	unity of invention		
Box No. V	Reasonce applicabi	is statement under Article 35(2) with regard to novelty, inventive step or industrial sility; citations and explanations supporting such statement		
Box No. VI	Certain d	documents cited		
Box No. VII	Certain d	defects in the international application		
Box No. VIII	Certain d	observations on the international application		
4. The International Bureau will com	monicate	this report to desig	nated Offices in ac	cordance with Rules 44bis.3(c) and 93bis.1 but
not, except where the applicant madate (Rule 44bis .2).	akes an exj	press request unde i	r Article 23(2), bef	ore the expiration of 30 months from the priority
			· · · · · · · · · · · · · · · · · · ·	
•	İ			
			Date of issuance of 27 July 2006 (27)	
The International Bureau	of Wire	-	Authorized officer	<del></del>
34, chemin des Colombettes				Ellen Moyse
1211 Geneva 20, Switzerland   Facsimile No. +41 22 338 82 70				Ť
Form PCT/IB/373 (January 2004)			c-mail: pt05@wipo	7.IIIL

P۷	١T	ENT	COOP	ERAT	NOI	TREAT	Y
----	----	-----	------	------	-----	-------	---

From the INTERNATIONAL SEARCHING AUTHORITY	ra <sub>tt</sub>
Fo:	PCT PCT
	WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY
	(PCT Rule 43bis.1)
	Date of mailing See Form PCT/ISA/210 (sheet 2)
Applicant's or agent's file reference	FOR FURTHER ACTION
8764 WO RSF-RIX	See paragraph 2 below
International application No.	anational filing date (day/month/year) Priority date (day/month/year)
PCT/EP2004/011528   1	4.10.2004 22.10.2003
International Patent Classification (IPC) or both nati	ional classification and IPC
F16H48/30	
Applicant	
ZF FRIEDRICHSHAFEN AG	•
1. This opinion contains indications relating	to the following items:
Box No. 1 Basis of the opin	tion
Box No. II Priority	
Box No. III Non-establishme	ent of opinion with regard to novelty, inventive step and industrial applicability
Box No. IV Lack of unity of	invention
	sent under Rule 43bis.1(a)(i) with regard to acceptly, inventive step or industrial ations and explanations supporting such statement
Box No. VI Certain documer	us cited
Box No. VII Certain defects it	n the international application
Box No. VIII Certain observat	ions on the international application
2 FURTHER ACTION	
International Preliminary Examining Auth	ry examination is made, this opinion will be considered to be a written opinion of the sority ("IPEA") except that this does not apply where the applicant chooses an Authority other sen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of not be so considered.
written reply together, where appropriate	sidered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA as., with amendments, before the expiration of 3 months from the date of mailing of Form 12 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/22	ı <b>0.</b>
3. For further details, see notes to Form PCT	/ISA/220.
Name and mailing address of the ICa TD	Tarthing Co.
Name and mailing address of the ISA/EP	Authorized officer
Factimile No.	Telephone No.

## RECEIVED CENTRAL FAX CENTER

AUG 29 2006

		WRITTEN	PINION OF THE	International application No.
			EARCHING AUTHORITY	PCT/EP2004/011528
Воз	k No. I	. Basis of this opinion		
1.	With filed.	regard to the language, this opini unless otherwise indicated under	on has been established on the basis of the internation this item.	nal application in the language in which it was
		This opinion has been established	on the basis of a translation from the original langua	
	-	Rule 12.3 and 23.1(b)).		
2.	With	regard to any nucleotide and/o uion, this opinion has been establi	r amino acid sequence disclosed in the internation and on the basis of:	nal application and necessary to the claimed
	ā.	type of material	; !	
		a sequence listing		
		table(s) related to the seque	ce listing	
	b.	format of material		
		in written format		
		in computer readable form	•	
	_	<del></del>	 	
	c.	time of filing/famishing	·	
		contained in the internation		
		_	national application in computer readable form.	
		furnished subsequently to the	s Authority for the purposes of search.	
3.		thinizica, the required statements	than one version or copy of a sequence listing and that the information in the subsequent or additional plication as filed, as appropriate, were furnished.	d/or table(s) relating thereto has been filed or copies is identical to that in the application as
4.	Addit	ional comments:		
	•			
			1 1	
				•
			·	
				•
				`
			·	

#### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/EP2004/011528

→ USPTO CENTRAL

1.	Statement			
	Novelty (N)	C) aims	5, 6, 8, 21-25	YE.
	•	Chairms	1-4, 7, 9-20	NO
	Inventive step (IS)	C)aims	6, 8, 21-25	YE
		Caims	1-5, 7, 9-20	NO.
	Industrial applicability (IA)	Clains	1-25	YE.
		C)aims		NO

#### Citations and explanations:

08/29/2006 14:41 FAX 603 226 7499

- 1. Reference is made to the following documents:
- D1: EP-A-0 533 92L (KABUSHIKI KAISHA KOMATSU SEISAKUSHO)
- 31 March 1993 (1993-03-31)
- D2: US-A-4 471 669 (SEABERG ET AL) 18 September 1984 (1984-09-18)
- D3: US-A-4 641 548 (GREENWOOD ET AL) 10 February 1987 (1987-02-10)
- 2. Document Dl discloses (the references between parentheses relate to this document): Transmission apparatus for distributing a drive moment to at least two output shafts (18, 25) having at least two planetary sets (101, 151) with at least three shafts, in each case one shaft (13 or 20) bf a planetary set (101 or 151) being connected to a drive shaft (32) and in each case one shaft of a planetary set (101 or 151) representing in each case one of the output shafts (18 or 25), in each case at least one further shaft (14a or 21a) of a planetary set (101 or 151) being connected to a shaft (14a or 21a) of a further planetary set (151 or 101) via a controllable and regulatable operative connection (4, 2, 9, 8, 10, 3, 5, and it being possible for in each case a moment of a shaft (14a or 21a) which is a function

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. .PCT/EP2004/011528

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement

of the operating state to be supported via the operative connection (4, 2, 9, 8, 10, 3, 5) as a function of an operating state of the respective other shaft (21a or 14a) which is operatively connected thereto, in such a way that, if a rotational-speed difference occurs between the output shafts (18, 25), a moment which changes the rotational-speed difference acts via the operative connection (4, 2, 9, 8, 10, 3, 5) on the planetary sets (101, 151) at least temporarily, and the first shaft (20) of the second planetary set being connected directly to the drive shaft (32), and a gear wheel (33) which is mounted on the housing side being provided between the first shaft (13) of the first planetary set and the drive shaft (32). The subject matter of claim 1 is therefore not novel (PCT Article 33(2)).

3. Document D1 also discloses the additional features of claims 2, 3 and 4. The subject matter of claims 2, 3 and 4 is therefore not novel (PCT Article 33(2)).

During engine braking, the motors (4) and (5) in document Dl function like a brake. The subject matter of claim 5 therefore does not involve an inventive step (PCT Article 33(3)).

4. Document D2 discloses (the references between parentheses relate to this document): Transmission apparatus for distributing a drive moment to at least two output shafts (52) having at least two planetary sets (42, 44) with at least three shafts, in each case one shaft (40) of a planetary set (42 or 44) being connected to a drive shaft (34) and in each case one shaft of a

Form PCT/ISA/237 (Box No. V) (January 2004)

#### WRITTEN OPENION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.

→ USPTO CENTRAL

PCT/EP2004/011528

Box No. V Repsoned statement under Rule 43bis 1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

planetary set (42, 44) representing in each case one of the output shafts (52), in each case at least one further shaft (48) of a planetary set (42 or 44) being connected to a shaft (48) df a further planetary set (44 or 42) via a controllable and regulatable operative connection (80, 74, 32, 78, 82), and it being possible for in each case a moment of a shaft (48) which is a function of the operating state to be supported via the operative connection (80, 7/4, 32, 78, 82) as a function of an operating state of the respective other shaft (48) which is operatively connected thereto, in such a way that, if a rotational-speed difference occurs between the output shafts (48), a moment which changes the rotational-speed difference acts via the operative connection (80, 74, 32, 78, 82) on the planetary sets (42, 44) at least temporarily, the operative connection (80, 74, 32, 78, 82) between the two third shafts (48) of the planetary sets (42, 44) being formed with a third planetary set (60, 62, 58), and a [lacuna] the shafts (differential housing) of the third planetary set (60, 62, 58) being configured in a manner which is fixed to the housing. The subject matter of claim 7 is therefore not novel (PCT Article 33(2)).

- 5. Document D2 also discloses the additional features of claims 9 to 17. The subject matter of claims 9 to 17 is therefore not novel (PCT Article 33(2)).
- 6. Document Dl discloses (the references between parentheses relate to this document): Transmission apparatus for distributing a drive moment to at least two output shafts (18, 25) having at least two planetary sets

Form PCT/ISA/237 (Box No. V) (January 2004)

AUG 2 9 2006

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/EP2004/011528

→ USPTO CENTRAL

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement (101, 151) with at least three shafts, in each case one shaft (13 or 20) of a planetary set (101 or 151) being connected to a drive shaft (32) and in each case one shaft of a planetary set (101, 151) representing in each case one of the output shafts (18, 25), in each case at least one further shaft (14a or 21a) of a planetary set (101 or 151) being connected to a shaft (21a or 14a) of a further planetary set (151 or 101) via a controllable and regulatable operative connection (4, 2, 9, 8, 10, 3, 5), and it being possible for in each case a moment of a shaft (14a or 21a) which is a function of the operating state to be supported via the operative connection (4, 2, 9, 8, 10, 3, 5) as a function of an operating state of the respective other shaft (14a or 21a) which is operatively connected thereto, in such a way that, if a rotational-speed difference occurs between the output shafts (18, 25), a moment which changes the rotationalspeed difference dcts via the operative connection (4, 2, 9, 8, 10, 3, 5) on the planetary sets (101, 151) at least temporarily, and the operative connection between the two third shafts (14a, 21a) of the first planetary set (101) and of the second planetary set (151) being configured with an infinitely variable transmission device (2, 4, 3, 5). The subject matter of claim 18 is therefore not novel (PCT Article 33(2)).

- 7. Document D1 also discloses the additional features of claim 20. The subject matter of claim 20 is therefore not novel (PCT Article 33(2)).
- 8. A similar objection as under point 6 is raised for claim 18 on the basis of D3. Document D3 also discloses

Form PCT/ISA/237 (Box No. V) (January 2001)

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/EP2004/011528

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement

the additional features of claim 19. The subject matter of claim 19 is therefore not novel (PCT Article 33(2)).

9. The combination of features contained in dependent claim 6 is neither known from the available prior art nor rendered obvious by it. Dependent claim 6 therefore meets the requirements of PCT Article 33(2) and (3).

The combination of features contained in dependent claim 8 is neither known from the available prior art nor rendered obvious by it. Dependent claim 8 therefore meets the requirements of PCT Article 33(2) and (3).

The combination of features contained in dependent claim 21 in the version which is dependent on claim 1 is neither known from the available prior art nor rendered obvious by it. Dependent claim 21 in the version which is dependent on claim 1 and dependent claims 22 to 25 therefore meet the requirements of PCT Article 33(2) and (3).

The combination of features contained in dependent claim 21 in the version which is dependent on claim 7 is neither known from the available prior art nor rendered obvious by it. Dependent claim 21 in the version which is dependent on claim 7 and dependent claims 22 to 25 therefore meet the requirements of PCT Article 33(2) and (3).

The combination of features contained in dependent claim 21 in the version which is dependent on claim 18 is neither known from the available prior art nor rendered

Form PCT/ISA/237 (Box No. V) (January 2004)

Box No. V

# WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/EP2004/011528

Reasoned statement under Rule 43bis.1(u)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement obvious by it. Dependent claim 21 in the version which is dependent on claim 18 and dependent claims 22 to 25 therefore meet the requirements of PCT Article 33(2) and (3).

For the reasons of unity, only one of these possibilities should be selected as an independent claim.

# This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

<b>C</b>
☐ BLACK BORDERS
☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
FADED TEXT OR DRAWING
BLURRED OR ILLEGIBLE TEXT OR DRAWING
☐ SKEWED/SLANTED IMAGES
☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
☐ GRAY SCALE DOCUMENTS
☐ LINES OR MARKS ON ORIGINAL DOCUMENT
☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

## IMAGES ARE BEST AVAILABLE COPY.

☐ OTHER:

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.